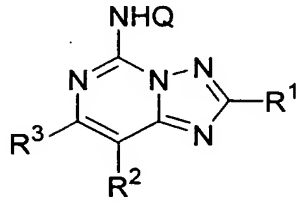
CLAIMS

1. A [1,2,4]triazolo[1,5-c]pyrimidine derivative represented by formula (I):



(I)

{wherein

R^1 represents substituted or unsubstituted aryl, or a substituted or unsubstituted aromatic heterocyclic group;

R^2 represents a hydrogen atom, halogen, lower alkyl, lower alkanoyl, aroyl, substituted or unsubstituted aryl, or a substituted or unsubstituted aromatic heterocyclic group;

R^3 represents the following:

1) lower alkyl or hydroxy-substituted lower alkyl;

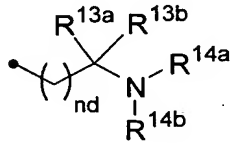
2) lower cycloalkyl;

3) formyl;

4) substituted or unsubstituted lower alkanoyl;

5) substituted or unsubstituted aroyl;

6) formula (A^3)



(A^3)

[wherein

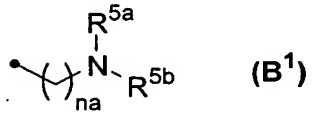
nd represents an integer of 0 to 3;

R^{13a} and R^{13b} may be the same or different and each represent a hydrogen atom, halogen, lower alkyl, lower cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted

aralkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, or lower alkoxy-substituted lower alkyl; R^{13a} and R^{13b} form a lower cycloalkane ring together with the adjacent carbon atom; or R^{13a} and R^{13b} are combined together to represent an oxygen atom or a sulfur atom; and

R^{14a} and R^{14b} may be the same or different and each represent a hydrogen atom, substituted or unsubstituted lower alkyl, lower cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, formyl, or

formula (B^1)



(B^1)

(wherein

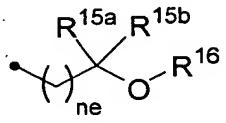
na represents an integer of 2 to 5; and

R^{5a} and R^{5b} may be the same or different and each represent a hydrogen atom, lower alkyl, lower cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aralkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, lower alkoxy-substituted lower

alkyl, or formyl; or R^{5a} and R^{5b} form a substituted or unsubstituted heterocyclic group together with the adjacent nitrogen atom); or

R^{14a} and R^{14b} form a substituted or unsubstituted heterocyclic group together with the adjacent nitrogen atom];

7) formula (C^3)



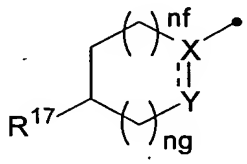
(C^3)

(wherein

ne, R^{15a} and R^{15b} have the same meanings as the above-described nd, R^{13a} and R^{13b}, respectively; and

R^{16} represents a hydrogen atom, lower alkyl, lower cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aralkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, or lower alkoxy-substituted lower alkyl);

8) formula (E^1)



(E^1)

[wherein

nf represents an integer of 0 to 3;

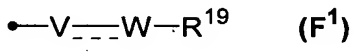
ng represents an integer of 1 to 4;

X---Y represents CR^{18}-CH_2 (wherein R^{18} represents a hydrogen atom, hydroxy, halogen, nitro, cyano,

trifluoromethyl, lower alkyl, lower alkoxy, lower alkanoyl, or lower alkoxycarbonyl), or C=CH; and

R^{17} represents a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted lower cycloalkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, or formyl];

9) formula (F^1)

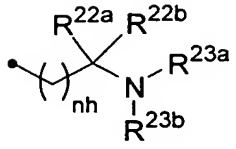


(F^1)

[wherein

V----W represents $CR^{20}=CR^{21}$ (wherein R^{20} and R^{21} may be the same or different and each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted lower cycloalkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, or lower alkoxycarbonyl) or C≡C; and

R^{19} represents a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted lower cycloalkyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, or formula (A^4)



(A^4)

(wherein

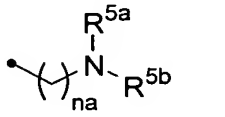
nh, R^{22a}, R^{22b}, R^{23a} and R^{23b} have the same meanings as the above-described nd, R^{13a}, R^{13b}, R^{14a} and R^{14b}, respectively),

provided that R^{19} is not substituted or unsubstituted aryl when V----W is CH=CH];

10) aryl substituted with a substituent selected from the

group consisting of

$-CH_2NHR^{4a}$ [wherein R^{4a} represents substituted or unsubstituted lower alkyl, lower cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, formyl, or formula (B^1)



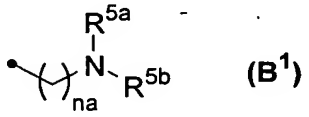
(B^1)

(wherein na, R^{5a} and R^{5b} have the same meanings as defined above, respectively)],

$-(CH_2)_{nb}-C(R^{6a})(R^{6b})(OR^7)$ (wherein nb, R^{6a}, R^{6b} and R^7 have the same meanings as the above-described nd, R^{13a}, R^{13b} and R^{16}, respectively), and

$-NR^{8a}R^{8b}$ [wherein R^{8b} and R^{8b} may be the same or different and each represent a hydrogen atom, substituted or unsubstituted lower alkyl, lower

cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted aromatic heterocyclic group, substituted or unsubstituted aroyl, lower alkoxycarbonyl, formyl, or formula (B^1)



(B^1)

(wherein na, R^{5a} and R^{5b} have the same meanings as defined above, respectively)]; or

11) an aromatic heterocyclic group substituted with a substituent selected from the group consisting of $-CH_2NR^{4b}R^{4c}$ (wherein R^{4b} and R^{4c} have the same meanings as the above-described R^{14a} and R^{14b}, respectively), $-(CH_2)_{nb}-C(R^{6a})(R^{6b})(OR^7)$ (wherein nb, R^{6a}, R^{6b} and R^7 have the same meanings as defined above, respectively), and $-NR^{8a}R^{8b}$ (wherein R^{8b} and R^{8b} have the same meanings as defined above, respectively); and

Q represents a hydrogen atom or 3,4-dimethoxybenzyl},

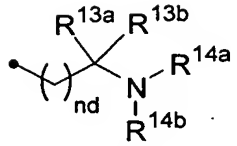
or a pharmaceutically acceptable salt thereof.

2. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1,

wherein R^3 is the following:

1) lower alkyl or hydroxy-substituted lower alkyl;
2) lower cycloalkyl;
3) formyl;
4) substituted or unsubstituted lower alkanoyl;
5) substituted or unsubstituted aroyl;

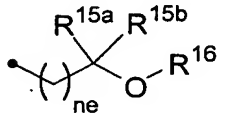
6) formula (A^3)



(A^3)

(wherein nd, R^{13a}, R^{13b}, R^{14a} and R^{14b} have the same meanings as defined above, respectively);

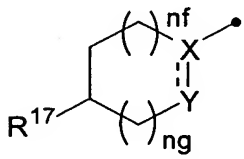
7) formula (C^3)



(C^3)

(wherein ne, R^{15a}, R^{15b} and R^{16} have the same meanings as defined above, respectively);

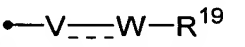
8) formula (E^1)



(E^1)

(wherein nf, ng, X----Y and R^{17} have the same meanings as defined above, respectively); or

9) formula (F^1)



(F^1)

(wherein V----W and R^{19} have the same meanings as defined above, respectively),

or a pharmaceutically acceptable salt thereof.

3. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is aryl substituted with a substituent selected from the group consisting of $-CH_2NHR^{4a}$ (wherein R^{4a} has the same meaning as defined above), $-(CH_2)_{nb}-C(R^{6a})(R^{6b})(OR^7)$ (wherein nb, R^{6a}, R^{6b} and R^7 have the same meanings as defined above, respectively), and $-NR^{8a}R^{8b}$

(wherein R^{8b} and R^{8b} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

4. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is aryl substituted with $-CH_2NHR^{4a}$ (wherein R^{4a} has the same meaning as defined above), or a pharmaceutically acceptable salt thereof.

5. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 3 or 4, wherein the aryl is phenyl, or a pharmaceutically acceptable salt thereof.

6. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is an aromatic heterocyclic group substituted with a substituent selected from the group consisting of $-CH_2NR^{4b}R^{4c}$ (wherein R^{4b} and R^{4c} have the same meanings as defined above, respectively), $-(CH_2)_{nb}-C(R^{6a})(R^{6b})(OR^7)$ (wherein nb, R^{6a}, R^{6b} and R^7 have the same meanings as defined above, respectively), and $-NR^{8a}R^{8b}$ (wherein R^{8b} and R^{8b} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

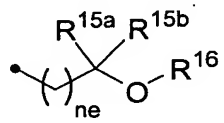
7. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is an aromatic heterocyclic group substituted with $-(CH_2)_{nb}-C(R^{6a})(R^{6b})(OR^7)$ (wherein nb, R^{6a}, R^{6b} and R^7 have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

8. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is an aromatic heterocyclic group substituted with $-NR^{8a}R^{8b}$ (wherein R^{8b} and R^{8b} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

9. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 6 to 8, wherein the aromatic

heterocyclic group is pyridyl or thiazolyl, or a pharmaceutically acceptable salt thereof.

10. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is formula (C^3)

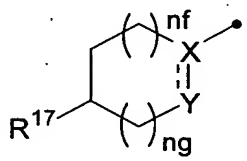


(C^3)

(wherein ne, R^{15a}, R^{15b} and R^{16} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

11. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is $-CH_2OR^{16}$ (wherein R^{16} has the same meaning as defined above), or a pharmaceutically acceptable salt thereof.

12. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is formula (E^1)



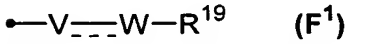
(E^1)

(wherein nf, ng, X----Y and R^{17} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

13. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 12, wherein nf is 1, ng is 1, and X----Y is C=CH, or a pharmaceutically acceptable salt thereof.

14. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 12 or 13, wherein R^{17} is substituted or unsubstituted lower alkyl, or a pharmaceutically acceptable salt thereof.

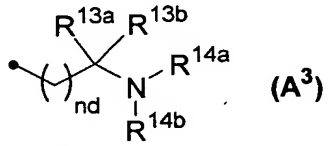
15. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is formula (F^1)



(F^1)

(wherein V----W and R^{19} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

16. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is formula (A^3)



(A^3)

(wherein nd, R^{13a}, R^{13b}, R^{14a} and R^{14b} have the same meanings as defined above, respectively), or a pharmaceutically acceptable salt thereof.

17. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 16, wherein nd is 0, and R^{13a} and R^{13b} are combined together to represent an oxygen atom, or a pharmaceutically acceptable salt thereof.

18. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 16, wherein nd is 0, and R^{13a} and R^{13b} are each a hydrogen atom, or a pharmaceutically acceptable salt thereof.

19. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 16 to 18, wherein R^{14a} and R^{14b} may be the same or different and are each a hydrogen atom or substituted or unsubstituted lower alkyl, or a pharmaceutically acceptable salt thereof.

20. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 16 to 18, wherein R^{14a} and R^{14b} form a substituted or unsubstituted heterocyclic group

together with the adjacent nitrogen atom, or a pharmaceutically acceptable salt thereof.

21 The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to claim 1, wherein R^3 is formyl, substituted or unsubstituted lower alkanoyl, or substituted or unsubstituted aroyl, or a pharmaceutically acceptable salt thereof.

22. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 21, wherein Q is a hydrogen atom, or a pharmaceutically acceptable salt thereof.

23. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 22, wherein R^1 is furyl, or a pharmaceutically acceptable salt thereof.

24. The [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 23, wherein R^2 is a hydrogen atom, or a pharmaceutically acceptable salt thereof.

25. A pharmaceutical composition comprising the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof as an active ingredient.

26. A therapeutic agent for Parkinson's disease comprising the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof as an active ingredient.

27. A therapeutic agent for depression comprising the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof as an active ingredient.

28. A therapeutic and/or preventive agent for a disease induced by hyperactivity of an adenosine A_{2A} receptor,

comprising the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof as an active ingredient.

29. Use of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic agent for Parkinson's disease.

30. Use of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic agent for depression.

31. Use of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic and/or preventive agent for a disease induced by hyperactivity of an adenosine A_{2A} receptor.

32. A therapeutic agent for a disease selected from the group consisting of Alzheimer's disease, progressive supranuclear palsy, AIDS encephalopathy, transmissible spongiform encephalopathy, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's disease, multiple system atrophy, cerebral ischemia, sleep disorders, ischemic heart disease and intermittent claudications, comprising the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof as an active ingredient.

33. Use of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic agent for a disease selected from the group

consisting of Alzheimer's disease, progressive supranuclear palsy, AIDS encephalopathy, transmissible spongiform encephalopathy, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's disease, multiple system atrophy, cerebral ischemia, sleep disorders, ischemic heart disease and intermittent claudications.

34. A method for treating Parkinson's disease, comprising administering an effective amount of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof.

35. A method for treating depression, comprising administering an effective amount of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof.

36. A method for treating and/or preventing a disease induced by hyperactivity of an adenosine A_{2A} receptor, comprising administering an effective amount of the [1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof.

37. A method for treating a disease selected from the group consisting of Alzheimer's disease, progressive supranuclear palsy, AIDS encephalopathy, transmissible spongiform encephalopathy, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's disease, multiple system atrophy, cerebral ischemia, sleep disorders, ischemic heart disease and intermittent claudications, comprising administering an effective amount of the

[1,2,4]triazolo[1,5-c]pyrimidine derivative according to any one of claims 1 to 24 or a pharmaceutically acceptable salt thereof.